

HW#1 Key

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42. a) $C = 0.55 + (m-1) \times 0.23$, $m \geq 1$

C represents the cost of the phone call

m represents the number of minutes

0.55 is the cost of the first minute

0.23 is the cost for each additional minute

b)
$$\begin{aligned} C &= 0.55 + (m-1) \times 0.23 \\ &= 0.55 + (10-1) \times 0.23 \\ &= 0.55 + 9 \times 0.23 \\ &= 0.55 + 2.07 \end{aligned}$$

$C = \$2.62$

c)
$$\begin{array}{r} 4.55 = 0.55 + (m-1) \times 0.23 \\ - 0.55 \quad - 0.55 \end{array} \quad \text{[subtract 0.55]}$$

$$4.00 = (m-1) \times 0.23 \quad \text{[Distributive property]}$$

$$\begin{array}{r} 4.00 = 0.23m - 0.23 \\ + 0.23 \quad + 0.23 \end{array} \quad \text{[Add 0.23]}$$

$$\begin{array}{r} 4.23 = 0.23m \\ \hline 0.23 \quad 0.23 \end{array} \quad \text{[divide by coefficient]}$$

$18.4 = m$

Check answer

44. a) $5 - 2(x - 1) = 12$
 $5 - 2x + 2 = 12$
 $\frac{-5}{-5} \qquad \qquad \qquad \frac{-5}{-5}$

 $-2x + 2 = 7$
 $\frac{-2}{-2} \qquad \qquad \frac{-2}{-2}$

 $-2x = \frac{5}{-2}$

$$x = -2.5$$

$$5 - 2((-2.5) - 1) = 12$$
$$5 - 2(-3.5) = 12$$
$$5 + 7 = 12$$
$$12 = 12 \checkmark$$

b) $5 + 2(x - 1) = 12$
 $5 + 2x - 2 = 12$
 $\qquad \qquad \qquad +2 \qquad \qquad +2$

 $5 + 2x = 14$
 $\frac{-5}{-5} \qquad \qquad \qquad \frac{-5}{-5}$

 $2x = 9$
 $\frac{2}{2} \qquad \qquad \qquad \frac{2}{2}$

$$x = 4.5$$

$$5 + 2(4.5 - 1) = 12$$
$$5 + 2(3.5) = 12$$
$$5 + 7 = 12$$
$$12 = 12 \checkmark$$

c) $5 - 2(x + 2) = 12$
 $5 - 2x - 4 = 12$
 $\qquad \qquad \qquad +4 \qquad \qquad +4$

 $5 - 2x = 16$
 $\frac{-5}{-5} \qquad \qquad \qquad \frac{-5}{-5}$

 $-2x = 11$
 $\frac{-2}{-2} \qquad \qquad \qquad \frac{-2}{-2}$

$$x = -5.5$$

$$5 - 2((-5.5) + 2) = 12$$
$$5 - 2(-3.5) = 12$$
$$5 + 7 = 12$$
$$12 = 12 \checkmark$$

Check Solution

44. d)

$$5 - 2x + 2 = 12$$

$$\begin{array}{r} 5 - 2x \\ -5 \\ \hline \end{array} = \begin{array}{r} 10 \\ -5 \\ \hline \end{array}$$

$$\frac{5 - 2x}{-5} = \frac{10}{-5}$$

$$\frac{-2x}{-2} = \frac{5}{-2}$$

$$x = -2.5$$

$$5 - 2(-2.5) + 2 = 12$$

$$5 + 5 + 2 = 12$$

$$10 + 2 = 12$$

$$12 = 12 \checkmark$$